

*What is claimed is:*

1. A device for measuring the viscosity of flowing media comprising a viscosity sensor realized from an asynchronous motor and having a measuring chamber, the output of said viscosity sensor being connected to the input of an information-signal generation unit and said measuring chamber being connected through the inlet port to a high-pressure pump, *characterized in that* the viscosity sensor includes a tachometer having the rotor thereof rigidly connected with the rotor of said asynchronous motor, both rotors being arranged in the measuring chamber of said sensor, said information-signal generation unit is made in the form of an AC bridge circuit comprising shoulders which are identical and which are each made of a resistor and a capacitor with variable capacity connected in series, said capacitors with variable capacity being formed by the electrodes of the tachometer stator and by at least one pole of the rotor thereof which is connected, through a capacitor with fixed capacity defined by the surface of the rotor of said asynchronous motor and by the wall of the body of the viscosity sensor, to one of the poles of the supply bridge of the generator, the other pole of the generator being galvanically connected to the common point of the resistors of the different shoulders of the AC bridge and the other ends of the resistors being connected to the inputs of a phase-sensitive converter.

2. A device in accordance with claim 1, *characterized in that* said generator is connected to said resistors through a potentiometer.

3. A device in accordance with claim 1, *characterized in that* said generator is made controllable by output signal frequency and amplitude.

4. A device in accordance with claim 1, *characterized in that* said information-signal generation unit includes a low-pass filter and an amplifier connected in series, the input of said low-pass filter being connected to the output of a phase-sensitive converter.

5. A device in accordance with claim 1, *characterized in that* it includes a temperature control system made in the form of a thermostat connected to a temperature control chamber made in the body of said viscosity sensor, it further includes a digital multimeter which signal inputs are connected to said amplifier of said information-signal generation unit, a pressure sensor hydraulically connected to said high-pressure pump, and a sensor of temperature of flowing media in said measuring chamber, the outputs of said digital multimeter being connected to a

controlled power source of the stator, to said asynchronous motor, to said high-pressure pump and to said thermostat with the possibility of controlling, respectively, rotational frequency of the rotor of said asynchronous motor, pressure and temperature of flowing media in said measuring chamber.

6. A viscosity sensor comprising a body with a measuring chamber, an asynchronous motor, the rotor of said asynchronous motor is installed on supports and is arranged in said measuring chamber connected to the inlet port and to the outlet port, characterized in that said body is made in the form of three portions: the central portion and two lateral portions, said central portion of the body includes the temperature control chamber of said temperature control system and the stator of said asynchronous motor, and said lateral portions of the body include the supports of the rotor of said asynchronous motor, the rotor of said tachometer being rigidly and galvanically connected to the rotor of the asynchronous motor and being arranged in the central portion of the body, and said supports are made with the possibility of electrically insulating the rotor from the body.

7. A sensor in accordance with claim 6, *characterized in that* the stator of the tachometer is made in the form of at least two electrodes galvanically isolated from each other and arranged opposite its rotor made with at least one pole arranged with the possibility of forming with said electrodes variable capacities modulated by said pole when the tachometer rotor rotates.

8. A sensor in accordance with claim 6, *characterized in that* the central portion of the body is made of a chemically inactive and non-magnetic material with low conductance.

9. A sensor in accordance with claim 6, *characterized in that* the rotor of the asynchronous motor is made of a chemically inactive and non-magnetic material with low density and high conductance.

10. A sensor in accordance with claim 6, *characterized in that* in case of making the tachometer rotor with two or more poles the angular dimension of each of them is made equal to the angular dimension of the gaps therebetween.

11. A sensor in accordance with claim 6, *characterized in that* each electrode is made in the form of two groups of plates galvanically connected between them.

12. A sensor in accordance with claim 6, *characterized in that* said gaps between said poles of the tachometer rotor are filled with a dielectric material with the possibility of making a cylindrical form.

09857662.082901

14. A method in accordance with claim 13, *characterized in that* the boundary areas of said film are connected to each other after making said stator of cylindrical form.

15. A method in accordance with claim 13, *characterized in that* said boundary areas of said film are connected by overlapping or butting them.

16. A method in accordance with claim 13, *characterized in that* a polymer compound is used as said dielectric material.